

**Remarks**

The specification has been amended to correct any typographical errors, ensure consistent labeling of reference numerals, and to ensure consistent terminology. No new matter is being introduced.

As discussed above, the drawings have been amended to correct the orientation of the wheels in Figure 1 and to provide additional reference numerals in both Figures 1 and 2. Again, no new matter is being introduced.

After entry of the subject Amendment, claims 1-5, 7, 9-10, and 12-20 will remain pending in the application with claims 1 and 13 being in independent form. Claims 6, 8, and 11 have been cancelled.

Claims 3-12 and 15-20 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner finds certain language in claims 3, 10, 15, and 20 to be unclear. Applicant has amended these claims in accordance with the Examiner's suggestions to eliminate any ambiguity. Many of the other dependent claims have also been amended to ensure consistent use of terminology and to further define the unique structures of the subject invention.

Claims 1-9, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Knobloch et al. (U.S. Patent No. 3,737,000) in view of Tappan et al. (U.S. Patent No. 4,040,312). Claims 1-3, 13, and 14 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamlukin (U.S. Patent No. 6,080,077) in view of Tappan et al. In addition, dependent claims 4, 10-12, and 15-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various other combinations of prior art references.

Independent claim 1 has been amended to clarify the novelty of this claim and to incorporate the limitations of original dependent claims 6, 8, and 11. As set forth in greater detail below, Applicant believes that independent claim 1 is now allowable. As also set forth below, Applicant traverses the obviousness rejections of independent claim 13.

Regarding independent claim 1, this claim has been amended to further require inner and outer ring gears, a spider directly supported on the output shaft, and a plurality of planet gear sets spaced from the output shaft and mounted to the spider. The planet gear sets each have a pinion shaft with an inner planet gear meshing with the inner ring gear and an outer planet gear meshing with the outer ring gear. The unique configuration of the spider being directly supported on the shaft and in turn supporting the planet gear sets away from the output shaft is not disclosed, suggested, or taught by the prior art of record.

The Examiner notes that the Knobloch patent discloses a type of “spider” having planetary gear sets. This “spider” of the Knobloch patent is in no way *directly* supported by the output shaft and the planet gear sets are in direct engagement with the output shaft such that this “spider” operates in a completely different manner than the spider configuration of the subject invention. Further, there is no teaching or suggestion in the prior art to incorporate the unique spider/planet gear set configuration of the subject invention into any other drive unit assembly. As such, Applicant believes that the unique combination of the subject invention as set forth in amended claim 1 is allowable. Claims 2-5, 7, 9-10, and 12 are also believed allowable as these claims depend from the unique features of claim 1.

Turning to independent claim 13, this claim has not been amended and the obviousness rejection is hereby traversed. To restate the claim, claim 13 requires the following unique combination;

- a non-rotating spindle,
- a wheel hub rotatably supported on the spindle,
- a reduction gear assembly mounted within the hub having an input and an output coupled to the hub, and
- an electric motor mounted within the spindle having an output shaft coupled to the input to drive the wheel hub.

The Examiner states that both the Knobloch and Kamlukin references disclose a non-rotating spindle, a wheel hub, and a reduction gear assembly. The Examiner also states that neither of the Knobloch and Kamlukin references disclose an electric motor

mounted within an interior chamber of the spindle. The Examiner uses the Tappan et al. reference to provide a teaching of incorporating an electric motor within the spindles of the Knobloch and Kamlukin references.

The motor in Tappan et al., however, is a fluid motor utilizing a plurality of reciprocating pistons disposed within a piston housing, which are in driving engagement with a swash plate (see column 3, lines 52-57). This type of fluid motor is a significant deviation from an electric motor as contemplated by the subject invention. There are numerous additional moving parts in a fluid motor and the ever present possibility of leakage in this type of motor. The Tappan et al. reference provides no teaching or suggestion of using an *electric motor* within a non-rotating spindle to drive an output shaft within a wheel hub. As such, even with the combination of Tappan et al., the prior art of record fails to disclose the unique combination as set forth in claim 13. Hence, claim 13 is believed allowable and claims 14-20 are also believed allowable as these claims depend from the novel features of claim 13.

Accordingly, it is respectfully submitted that the Application, as amended, is now presented in condition for allowance, which allowance is respectfully solicited. The Commissioner is authorized to charge our Deposit Account No. 08-2789 for any fees or credit the account for any overpayment.

Respectfully submitted,

**HOWARD & HOWARD ATTORNEYS, P.C.**



Date: July 10, 2003

Samuel J. Hurdle, Registration No. 42,619  
The Pinehurst Office Center, Suite 101  
39400 Woodward Avenue  
Bloomfield Hills, MI 48304-5151  
(248) 645-1483